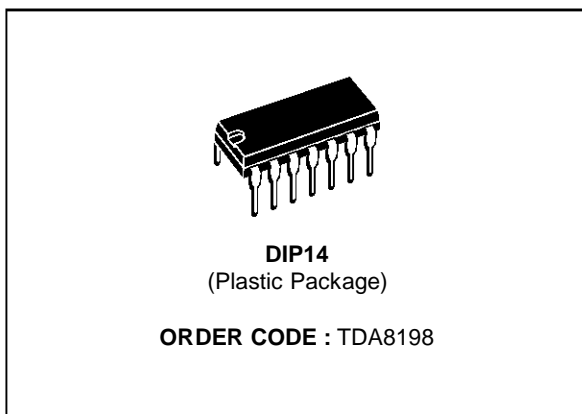


**DOUBLE AUDIO SWITCH  
AND DC VOLUME CONTROL FOR TV**

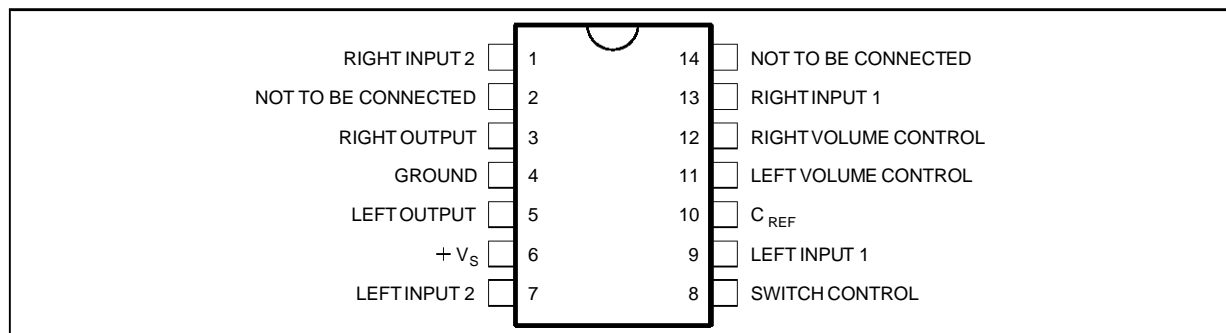
- A DOUBLE TWO-INPUT CIRCUITS WITH SWITCHING FACILITIES
- A DOUBLE DC VOLUME CONTROL
- 12dB MAXIMUM GAIN
- 90dB SIGNAL DYNAMIC RANGE



**DESCRIPTION**

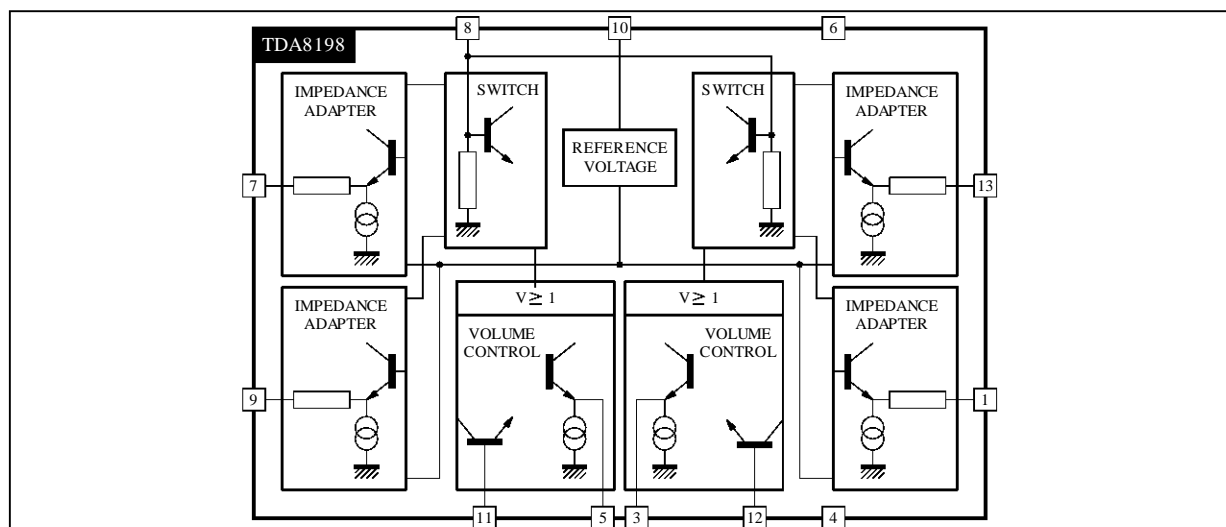
The TDA8198 is a monolithic integrated circuit in DIP14 package intended for TV applications which provides Audio switching facilities between two double inputs including DC volume control.

**PIN CONNECTIONS**



8198-01.EPS

**BLOCK DIAGRAM**



8198-02.EPS

**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
V <sub>S</sub>	Supply Voltage	16	V
T <sub>stg</sub>	Storage Temperature	-55, +125	°C
T <sub>oper</sub>	Operating Ambient Temperature	0, +70	°C

8198-01.TBL

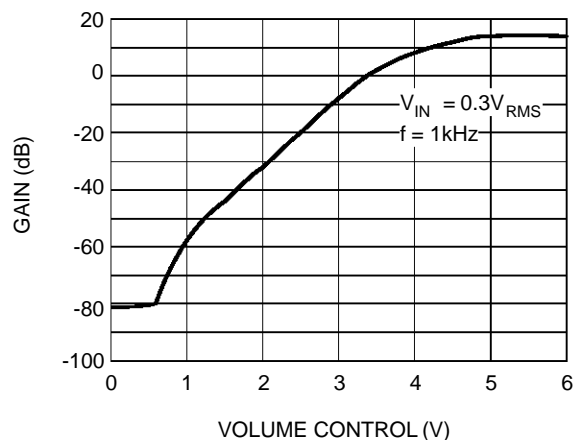
**ELECTRICAL CHARACTERISTICS**

Measured according to the following conditions, unless otherwise specified : T<sub>amb</sub> = 25°C, V<sub>S</sub> = +12V.

Symbol	Parameter	Min.	Typ.	Max.	Unit
V <sub>S</sub>	Supply Voltage Range	10.8	12	13.2	V
I <sub>S</sub>	Supply Current (V <sub>IN</sub> = 0, V <sub>C</sub> = 0.5V)		24	32	mA
V <sub>R</sub>	Reference Voltage		6.9		V
V <sub>M</sub>	Mode Selection Voltage Audio 1 Audio 2	9.5		5 V <sub>S</sub>	V
R <sub>SW</sub>	Switching Input Resistance	15	30		kΩ
V <sub>I</sub>	Audio Input Amplitude		0.125	0.3	V <sub>RMS</sub>
Δk	DC Volume Control Range @ V <sub>I</sub> = 0.3V <sub>RMS</sub>	70	90		dB
k <sub>MIN</sub>	Output/Input Gain for Maximum Volume (V <sub>C</sub> = 5V)		12		dB
dK	Gain Difference between Channels at V <sub>C</sub> = 5V		0		dB
V <sub>C</sub>	Voltage Control Range k = k <sub>MAX</sub> (volume minimum) k = k <sub>MIN</sub> (volume maximum)	5		0.5	V
THD1	Distortion for V <sub>I</sub> = 0.25V <sub>RMS</sub> at Maximum Volume		0.3	1	%
THD2	Distortion for V <sub>O</sub> = 1.2V <sub>RMS</sub>			5	%
C <sub>T</sub>	Crosstalk between Switched Inputs		80		dB
C <sub>C</sub>	Crosstalk between Channels 1 & 2		70		dB
R <sub>I</sub>	Audio Input Resistance		22		kΩ
R <sub>O</sub>	Audio Output Resistance		10	300	Ω
	Output Noise Level @ V <sub>C</sub> = 5V (weighted) (curve : DIN45 405)		300		μV <sub>RMS</sub>
I - V <sub>C</sub>	Volume Control Input Current (Pins 11 and 12) at V <sub>C</sub> = 5V		-12		μA
	Volume thermal stability (k = 30dB, 0 < T <sub>amb</sub> < 60°C)		0.04		dB/°C

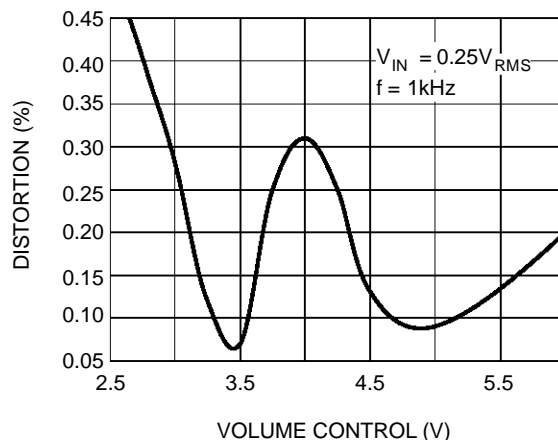
8198-02.TBL

**Figure 1 : Gain versus Volume Control**



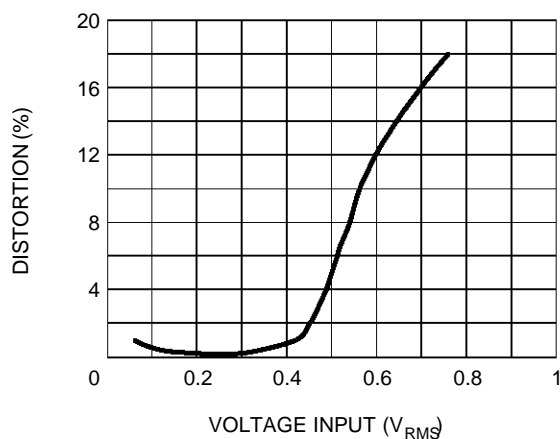
8198-03.EPS

**Figure 2 : Distortion versus Volume Control**



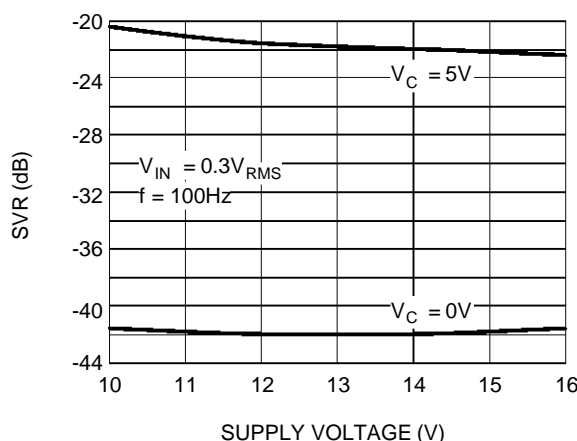
8198-04.EPS

**Figure 3 : Distortion versus Voltage Input**



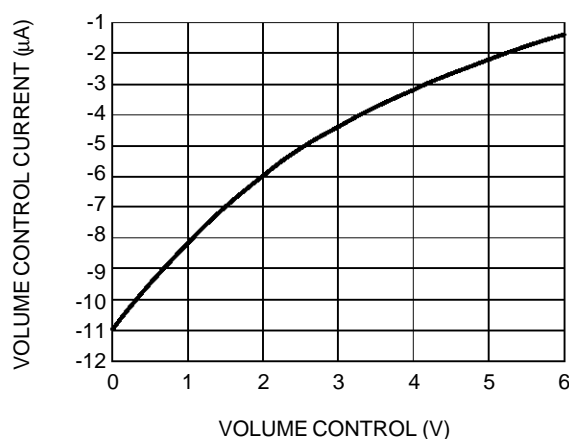
8198-05.EPS

**Figure 4 : Supply Voltage Rejection**



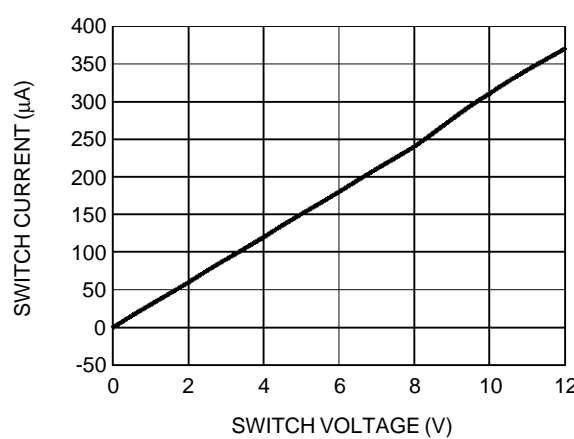
8198-06.EPS

**Figure 5 : Volume Control Current versus Voltage (pins 11 - 12)**



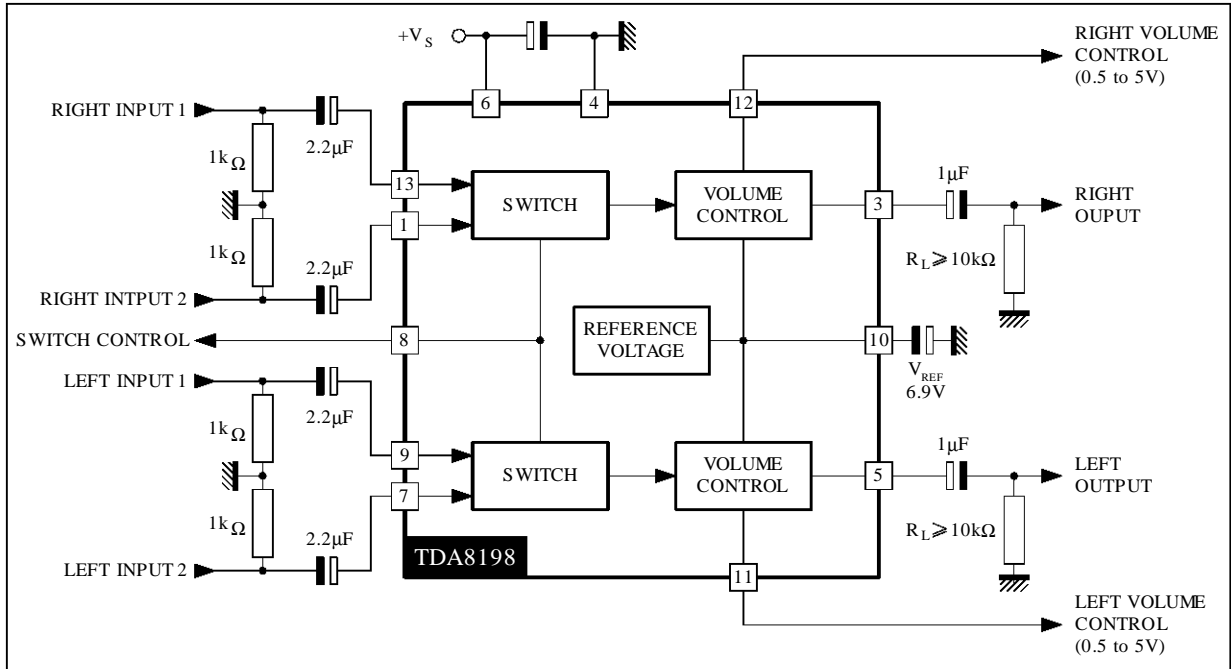
8198-07.EPS

**Figure 6 : Switch Current versus Voltage (pin 8)**



8198-08.EPS

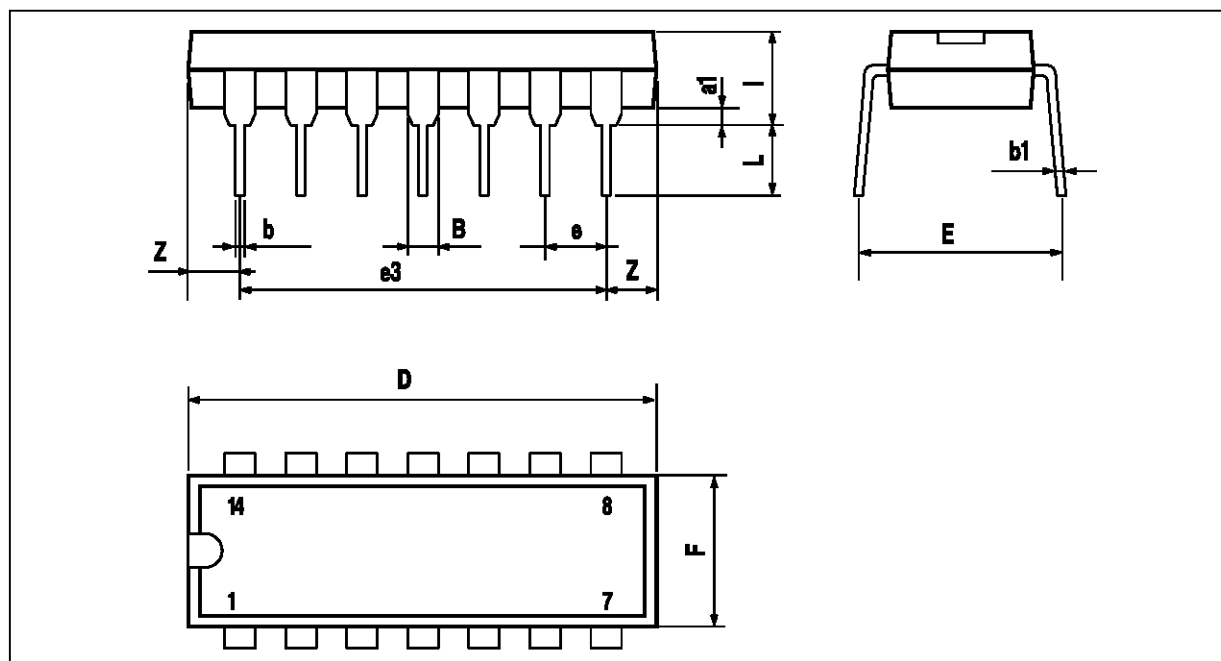
APPLICATION DIAGRAM



8198-09.EPS

## PACKAGE MECHANICAL DATA

14 PINS - PLASTIC DIP



PM-DIP14LEPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
a1	0.51			0.020		
B	1.39		1.65	0.055		0.065
b		0.5			0.020	
b1		0.25			0.010	
D			20			0.787
E		8.5			0.335	
e		2.54			0.100	
e3		15.24			0.600	
F			7.1			0.280
l			5.1			0.201
L		3.3			0.130	
Z	1.27		2.54	0.050		0.100

DIP14.TBL

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